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PTO/SB/08A (10-98)

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PATENT AND TRADEMARK OFFICE: U.S. DEPARTMENT OF COMMERCE

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Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 5

Complete if Known	
Application Number	10/708,271
Filing Date	February 20, 2004
First Named Inventor	Douglas A. Luopa
Group Art Unit	
Examiner Name	
Attorney Docket Number	49879.1

U.S. PATENT DOCUMENTS

FOREIGN PATENT DOCUMENTS

**Examiner
Signature**

Key C

Date
Considered

9/24/02

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¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 2 of 5

Complete if Known

Application Number	10/708,271
Filing Date	February 20, 2004
First Named Inventor	Douglas R. Luopa
Group Art Unit	
Examiner Name	

Attorney Docket Number 49879.1

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

Examiner Initials ¹	Cite No. ²	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ³
KO	8	WANG, et al. "Enhanced Mass Transfer and Wall Shear Stress in Multiphase Slug Flow" - Paper 02501, Corrosion 2002, NACE International Conference, Houston, Texas, U.S.A. pp.2501/1 - 2501/15. month unknown	
KO	9	SANCHEZ, et al. "Designing and Building an Electrochemical Cell to Measure Corrosion Rate in Flow Lines", Paper 217, Corrosion 99, NACE International Conference, Houston, Texas, U.S.A. pp. 1-13. 1999, Month unknown	
KO	10	MENDOZA-FLORES, et al.; "Influence of Electrode Length On the Measurement of Cathodic Kinetics of Steel Corrosion in CO ₂ Containing Solutions, Under Turbulent Flow Conditions", Paper 02490, Corrosion 2002, NACE International Conference, pp. 02490/1-02490/12. Month unknown	
KO	11	de WAARD, et al., "Influence of Liquid Flow Velocity on CO ₂ Corrosion: A Semi-Empirical Model", Paper 128, Corrosion 95, NACE International Conference, Houston, TX, pp. 128/1-128/15. 1995 Month unknown	
KO	12	ZHANG, et al. "Development of a Mechanistic Model for Predicting Corrosion Rate in Multiphase Oil/Water/Gas Flows", Paper No. 601, Corrosion 97, NACE International Conference, TX, pp.601/1-601/30. 1997 Month unknown	
KO	13	CHESTNUT, et al. "The Measurement of Corrosion Inhibitor Film Life in High Velocity Flow", Paper No. 135, Corrosion 95, NACE International Conference, TX, pp. 135/1 - 135/24. 1995 Month unknown	
KO	14	HIGH, M.S. et al., "Mechanistic Modeling of Mass Transfer in the Laminar Sublayer in Downhole Systems", Paper 00062, Corrosion 2000, NACE International Conference, TX, pp. 1-20. Month unknown	
KO	15	BOJES, Josef, et al. "A Laboratory Evaluation of the Variables That Affect The Application of Batch Corrosion Inhibitors - Phase I", Paper 02289, Corrosion 2002, NACE International Conference, TX, pp. 02289/1 - 02289/10. Month unknown	
KO	16	DE REUS, J.A.M., et al., Corrosion Inhibitor Selection and Field Verification in Oil and Gas Production", Paper 02279, Corrosion 2002, NACE International Conference, pp. 02279/1 - 02279/8. Month unknown	
KO	17	DOUGHERTY, J.A., et al. "Corrosion Inhibitor Film Life Studies Using a RCE Flow-Through Test", Paper 02286, Corrosion 2002, NACE International Conference, TX, pp. 02286/1 - 02286/12. Month unknown	
KO	18	HONGBIN, Wang, et al. "Why Corrosion Inhibitors Do Not Perform Well in Some Multiphase Conditions: A Mechanistic Study", Paper 02276, Corrosion 2002, pp. 02276/1 - 02276/15. Month unknown	

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Sheet 3 of 5

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KO	19	SHI, Hua, et al. "Predicting of Water Film Thickness and Velocity for Corrosion Rate Calculation in Oil-Water Flows". Paper 02500, Corrosion 2002, NACE International Conference, TX, pp. 02500/1 - 02500/17. Month unknown	
KO	20	EDEN, D.A., et al., "Corrosion Monitoring as a Means of Effecting Control of CO ₂ Corrosion", Paper 01057, Corrosion 2001, NACE International Conference TX, pp. 01057/1 - 01057/8. Month unknown	
KO	21	THOMAS, M.J.J. Simon, et al. "Field Corrosivity Measurements - An Essential Component of the Corrosion Control Process" Paper 01038 Corrosion 2001, NACE International Conference, TX, pp. 01038/1 - 01038/16. Month unknown	
KO	22	BOJES, Josef, et al. "Batch Inhibitor Film Distribution Studies: Correlation of Field Data With Laboratory Results", Paper 01028, Corrosion 2001, NACE International Conference, TX, pp. 01028/1 - 01028/17. Month unknown	
KO	23	DEVA, Y.P., et al. "Use of Electrochemical Noise to Monitor Multiphase Flow and Corrosion", Paper No. 337, Corrosion 96, NACE International Conference, TX, pp. 337/1 - 337/26. 1996 Month unknown	
KO	24	DICKINSON, W.H., et al. "Manganese Biofouling of Stainless Steel: Deposition Rates and Influence on Corrosion Processes", Paper 291, Corrosion 96, NACE International Conference, TX, pp. 291/1 - 291/9. 1996 Month unknown	
KO	25	CHEN, Y., et al., "Comparison of ECN and EIS Measurement for Corrosion Monitoring Under Multiphase Flow Conditions", Paper 276, Corrosion 97, NACE International Conference, TX, pp. 276/1 - 276/21. 1997 Month unknown	
KO	26	FARQUHAR, G.B., et al, "Prediction of Corrosion Inhibitor Performance Using Simulated CO ₂ /H ₂ S Environmental Autoclave and Flowloop Tests", Paper 151, Corrosion 97, NACE International Conference, TX, pp. 151/1 - 151/35. 1997 Month unknown	
KO	27	GOPAL, M., et al., "Mechanisms Contributing to Enhanced Corrosion in Three Phase Slug Flow in Horizontal Pipes" Paper No. 105, Corrosion 95, NACE International Conference, TX, pp. 105/1 - 105/13. 1995 Month unknown	
KO	28	KEMPE, Philippe, et al. "Field Trial Results of a New, Rapid Corrosion Monitoring System", Paper No. 00090, Corrosion 2000, NACE International Conference, TX, pp. 00090/1 - 00090/12. Month unknown	
KO	29	JORDAN, Ken, "Erosion in Multiphase Production of Oil & Gas", Paper No. 58, Corrosion 98, NACE International Conference, TX, pp. 58/1 - 58/34. 1998 Month unknown	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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First Named Inventor	Douglas R. Luopa
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KU	29	GOPAL, Madan, et al. "Effect of Multiphase Slug Flow On the Stability of Corrosion Product Layer", Paper No. 46, Corrosion 1999 NACE International Conference, TX, pp. 046/1 - 046/25. Month - unknown	
KG	30	MARINTEK, Jon K., "Flow Loop Studies of the Relationship Between Limiting Currents and CO ₂ /H ₂ S Corrosion of Carbon Steel" Paper No. 44, Corrosion 98, NACE International Conference, TX, pp. 44/1 - 44/12. 1998 Month unknown	
KD	31	DOUGHERTY, J.A., "Effect of Variables on Downhole Corrosion Inhibitor Application", Paper No. 22, Corrosion 98, NACE International Conference, TX, pp. 22/1 - 22/19. 1996 . Month unknown	
KO	32	KANG, C., et al. "The Effect of Slug Frequency on Corrosion in High Pressure, Inclined Pipelines", Paper No. 20, Corrosion 96, NACE International Conference, TX, pp. 20/1 - 20/16. 1996 Month unknown	
KO	33	JEPSON, W.P., et al., "Predictive Model for Sweet Corrosion in Horizontal Multiphase Slug Flow", Paper 19, Corrosion 96, NACE International Conference, TX, pp. 19/1 - 19/17. Re 1996 Month unknown	
KO	34	VIDEM, K., et al. "Corrosion of Carbon Steel in CO ₂ Saturated Aqueous Solutions Containing Small Amounts of H ₂ S", Paper No. 12, Corrosion 94, NACE International Conference, TX, pp. 12/1 - 12/16. 1994 Month unknown	
KO	35	CHEN, H.J., et al. "Inhibition of Slug Front Corrosion in Multiphase Flow Conditions", Paper No. 55, Corrosion 98, NACE International Conference, TX, pp. 55/1 - 55/24. 1998 Month unknown	
KO	36	FU, Shi-Liang, et al. "A New Localized Corrosion Monitoring Technique for the Evaluation of Oilfield Inhibitors", Paper No. 346, Corrosion 96, NACE International Conference, TX, pp. 346/1 - 346/20. 1996 Month unknown	
KU	37	OLSEN, Stein, et al. "Flow Effects on Corrosion Inhibitors in Topsides Flowlines" Paper No. 129, Corrosion 95, NACE International Conference, TX, pp. 129/1 - 129/22. 1995 Month unknown	
KO	38	MORALES, Jose L., et al. "Determination of Galvanic Effect and Flow Effect on CO ₂ Corrosion Behavior Using a Dynamic Field Tester" Paper No. 116, Corrosion 95, NACE International Conference, TX, pp. 116/1 - 116/15. 1995 Month unknown	
KO	39	DOUGHERTY, J.A., et al. "The effects of flow on Corrosion Inhibitor Performance", Paper No. 113, Corrosion 95, NACE International Conference, TX, pp. 113/1 - 113/13. 1995 Month unknown	

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		Group Art Unit	
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Sheet	5	of	5
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KO	40	KOLTS, Juri, et al. "Flow Effects in Corrosion Inhibitor Selection", Paper No. 108, Corrosion 95, NACE International Conference, TX, pp. 108/1 - 108/12. 1995 Month unknown	
KO	41	SHADLEY, J.R., et al. "Velocity Guidelines for Preventing Pitting of Carbon Steel Piping When the Flowing Medium Contains CO ₂ and Sand" Paper No. 15, Corrosion 96, NACE International Conference, TX, pp. 15/1 - 15/16. 1996 Month unknown	
KO	42	JEPSON, W.P., et al. "Model for Sweet Corrosion in Horizontal Multiphase Slug Flow", Paper No. 11, Corrosion 97, NACE International Conference TX, pp. 11/1 - 11/12. 1997 Month unknown	
KO	43	PALACIOS T., Carlos, A. et al. "Application of Simulation Techniques for Internal Corrosion Prediction", Paper No. 2, Corrosion 97, NACE International Conference, TX, pp. 2/1 - 2/17. 1997 Month unknown	
KO	44	BROWN, Gerald K. "Internal Corrosion Monitors Now Offer Quick Readings - Part 1", Article, Pipe Line & Gas Industry, March, 1996, pp. 29-32.	
KO	45	BROWN, Gerald K., "Traditional Corrosion Monitors have their Usefulness - Part 2", Article, Pipe Line & Gas Industry, April 1996, pp. 53-55.	
KO	46	BROWN, Gerald K., "External H ₂ Sensor Monitors Internal Pipe Corrosion - Part 3", Article, Pipe Line & Gas Industry, June, 1996, pp. 29-32.	

Examiner Signature		Date Considered	9/24/09
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